

POLISHING METHOD, POLISHING APPARATUS, PLATING METHOD,
AND PLATING APPARATUS

ABSTRACT OF THE DISCLOSURE

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10 A polishing method and polishing apparatus able to
easily flatten an initial unevenness with an excellent
efficiency of removal of excess copper film and suppress
damage to a lower interlayer insulation film, and a
15 plating method and plating apparatus able to deposit a
flat copper film. The polishing method comprises the
steps of measuring thickness equivalent data of a film on
a wafer, making a cathode member smaller than the surface
face a region thereof, interposing an electrolytic
15 solution between the surface and the cathode member,
applying a voltage using the cathode member as a cathode
and the film an anode, performing electrolytic polishing
by electrolytic elution or anodic oxidation and chelation
and removal of a chelate film in the same region
20 preferentially from projecting portions of the film until
removing the target amount of film obtained from the
thickness equivalent data, and repeating steps of moving
the cathode member to another region to flattening the
regions over the entire surface. Further, plating is
25 performed by a reverse reaction of the above.